

S Poplar River
628.16 Cooperative
M26prus Monitoring
1986 Arrangement ...
131 0/1 data exchange,
United States
contribution

POPLAR RIVER
COOPERATIVE MONITORING
ARRANGEMENT

1986

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FIRST QUARTER DATA EXCHANGE
UNITED STATES CONTRIBUTION

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INTRODUCTION

1986 - FIRST QUARTER DATA EXCHANGE

POPLAR RIVER BASIN

The Poplar River Bilateral Monitoring Committee was authorized by the Governments of Canada and the United States under the Poplar River Cooperative Monitoring Arrangement dated September 23, 1980. The Committee is composed of representatives of the Governments of the United States, State of Montana, Canada, and Province of Saskatchewan. In addition to the representatives of governments, two ex officio members who are local representative of the State of Montana and Province of Saskatchewan participate in activities of the Committee.

One responsibility of the Committee includes the on-going quarterly exchange of results of water quantity, water quality and air quality monitoring programs. The programs are being conducted in Canada and the United States at or near the International Boundary by cooperative monitoring agencies in accordance with the Technical Monitoring Schedules. Monitoring information is to be transmitted by each Committee co-chairman to his counterpart co-chairman within a reasonable period after the termination of each quarter. In addition, pre selected parties are to receive copies of the quarterly exchange.

This package represents information collected by United States sources for the Poplar River basin during the first quarter of 1986. Included are data for surface water quantity and quality, ground water levels. Air quality monitoring was not done during the reporting period.

STREAMFLOW MONITORING

Responsible Agency: U.S. Geological Survey

Daily mean discharge or levels and instantaneous monthly extremes
as normally published in surface water data publications.

No. on <u>Map</u>	USGS <u>Station No.</u>	<u>Station Name</u>
1	06178000	Poplar River at International Boundary

Responsible Agency: Environment Canada

2	06178500	East Poplar River at International Boundary
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HYDROMETRIC GAUGING STATIONS

SURFACE WATER QUALITY MONITORING

Station Location

Responsible Agency: U.S. Geological Survey

No. on Map	USCS Station No.	Station Name
1	06178000	Poplar River at International Boundary
2	06178500	East Poplar River at International Boundary
3	06179000	East Poplar River near Scobey

PARAMETERS

WATSTORE*			Sampling Frequency			
Code	Parameter	Analytical method	No.	1	2	3
00410	Alkalinity-field	Elect. Titration	M	M	M	
90410	Alkalinity-lab	Elect. Titration	M	M	M	
01106	Aluminum-diss	AA	SA	SA	SA	
00610	Ammonia-tot	Colorimetric	M	M	M	
00625	Ammonia+Org N-tot	Colorimetric	M	M	M	
01000	Arsenic-diss	AA, hydride	SA	SA	SA	
01002	Arsenic-tot	AA, hydride	A	A	A	
01010	Beryllium-diss	AA	SA	SA	SA	
01012	Beryllium-tot/rec	AA-persulfate	A	A	A	
01020	Boron-diss	Colorimetric	M	M	M	
01025	Cadmium-diss	AA	SA	SA	SA	
01027	Cadmium-tot/rec	AA-persulfate	A	A	A	
00915	Calcium	AA	M	M	M	
00680	Carbon-tot Org	Wet Oxidation	SA	SA	SA	
00940	Chloride-diss	Ion chromatography	M	M	M	
01030	Chromium-diss	AA	SA	SA	SA	
01034	Chromium-tot/rec	AA-persulfate	A	A	A	
00080	Color	Electrometric, visual	M	M	M	
00095	Conductivity	Wheatstone Bridge	M	D	M	
01040	Copper-diss	AA	SA	SA	SA	
01042	Copper-tot/rec	AA-persulfate	A	A	A	
00061	Discharge-inst	Direct measur.	M	M	M	
00950	Fluoride	Electrometric	M	M	M	
01046	Iron-diss	AA	M	M	M	
01045	Iron-tot/rec	AA-persulfate	A	A	A	
01049	Lead-diss	AA	SA	SA	SA	
01051	Lead-tot/rec	AA-persulfate	A	A	A	
00925	Magnesium-diss	AA	M	M	M	
01056	Manganese-diss	AA	SA	SA	SA	
01055	Manganese-tot/rec	AA-persulfate	A	A	A	
01065	Nickel-diss	AA	SA	SA	SA	
01067	Nickel tot/rec	AA-persulfate	A	A	A	
00615	Nitrite-tot	Ion-chromatography	M	M	M	
00630	Nitrate+Nitrite-tot	Colorimetric	M	M	M	
00300	Oxygen-diss	Winkler/meter	M	M	M	
70507	Phos, Ortho-tot	Colorimetric	M	M	M	
00400	pH	Electrometric	M	M	M	
00665	Phosphorous-tot	Colorimetric	M	M	M	
00935	Potassium-diss	AA	M	M	M	
00931	SAR	Calculated	M	M	M	
80154	Sediment-conc.	Filtration-gravimetric	M	M	M	
80155	Sediment-load	Calculated	M	M	M	
01145	Selenium-diss	AA, hydride	SA	SA	SA	
01147	Selenium tot/rec	AA, hydride	A	A	A	
00955	Silica	Colorimetric	M	M	M	
00930	Sodium	AA	M	M	M	
00945	Sulfate-diss	Colorimetric	M	M	M	
70301	Total Dissolved Solids	Calculated	M	M	M	
00010	Temp Water	Toluene	M	M	M	
00020	Temp Air	Toluene	M	M	M	
00076	Turbidity	Nephelometric	M	M	M	
80020	Uranium-diss	Fluorimetric	-	MC	-	
01090	Zinc-diss	AA	SA	SA	SA	
01092	Zinc-tot/rec	AA-persulfate	A	A	A	

*Computer storage and retrieval system - USGS

Symbols: C-continuous, D-daily; M-monthly; MC-monthly composite; A-annually at high flow, SA-semi-annually at low and high flow; AA-atomic absorption; tot-total, rec-recoverable, diss-dissolved



SURFACE WATER QUALITY MONITORING STATIONS

06178500 EAST POPLAR RIVER AT INTERNATIONAL BOUNDARY

BARO-
METRIC

SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) 00300
00000	00000
00001	00000
00002	00000
00003	00000
00004	00000
00005	00000
00006	00000
00007	00000
00008	00000
00009	00000
00010	00000
00011	00000
00012	00000
00013	00000
00014	00000
00015	00000
00016	00000
00017	00000
00018	00000
00019	00000
00020	00000
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00090	00000
00091	00000
00092	00000
00093	00000
00094	00000
00095	00000
00096	00000
00097	00000
00098	00000
00099	00000

COLOR
(PLAT-
INUM-
COBALT
UNITS
00080)

TUR-
BID-
ITY
(NTU)
00076)

TREAM-
FLOW.
NSTAN-
TANEOUS
(CFS)
00061)

FATHER
(WNO
CODE
NUMBER)
00041)

WIND
SPEED
(MILES
PER
HOUR)
(00035)

CLOUD
COVER
(PER-
CENT)
(00032)

METRIC -
PRES-
SURE
(MM
OF
HG)
(00025

TEMPERATURE
AIR (DEG C)
(00020)

TEMPER-
ATURE
(DEC C)
(00U10)

TIMEDATE _____

OXYGEN,
DIS-
SOLVED
(PER-
CENT
SATUR-
ATION)
(00301)

NITRO-
GEN,
TOTAL
(NG/L
AS N)
(00600)

NITRO-
GEN,
AMMONIA
TOTAL
(MG/L
AS N)
(00610)

NITRO-
GEN.
NITRATE
TOTAL
(MG/L
AS N)
(00620)

VITA
 GEN.
 002-11
 TOTAL
 156
 AS :
 (0063

JAN. 1986

7.6
7.6
8.6
8.3

25	23	--	--
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0.33
0.25
--
--

Factor	Significance
Factor 1	0.01
Factor 2	<0.01
Factor 3	--
Factor 4	--

1911

POPLAR RIVER BASIN

06178500 EAST POPLAR RIVER AT INTERNATIONAL BOUNDARY--Continued

WATER QUALITY DATA

DATE	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	HARD- NESS (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	PERCENT SODIUM (00932)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
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JAN , 1986

14...

FEB

18...

MAR

24...

APR

16...

0.3

0.4

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DATE	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	PHOS- PHORUS, ORTHO, TOTAL (MG/L AS P) (70507)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	ALKAL- INITY LAB (MG/L AS CACO3) (90410)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)
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JAN , 1986

14...

FEB

18...

MAR

24...

APR

16...

402

421

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EAST POPLAR RIVER AT INTERNATIONAL BOUNDARY

SPECIFIC CONDUCTANCE (MICROMHO CM AT 25 DEG C), CALENDAR YEAR 1986 TO DECEMBER 1986
ONCE-DAILY

POPULAR RIVER BASIN

06179000 EAST FORK POPULAR RIVER NEAR SCOBEE, MT.

WATER QUALITY DATA

DATE	TIME	TEMPER- ATURE (DEG C) (00010)	TEMPER- ATURE, AIR (DEG C) (00020)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	CLOUD COVER (PER- CENT) (00032)	WIND SPEED (MILES PER HOUR) (00035)	WEATHER (WMO CODE NUMBER) (00041)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	TUR- BID- ITY (NTU) (00076)	COLOR (PLAT- INUM- COBALT UNITS) (00080)
JAN, 1986 14...	15:00	0.0	3.0	700	0	E0	0	E1.5	2.5	10
MAR 25...	08:30	4.0	1.5	698	10	E20	1	33	--	--
APR 16...	09:00	2.0	1.0	700	100	E3.0	3	12	--	--
DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
JAN, 1986 14...	1,540	--	--	7.5	7.6	41	U.82	<0.01	U.8	<0.10
MAR 25...	1,000	9.9	83	8.8	--	--	--	--	--	--
APR 16...	1,280	9.3	74	8.6	--	--	--	--	--	--

06170000 EAST FORK, POPLAR RIVER NEAR SCOBEY, MT.--Continued

PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	HARD- NESS (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
					PERCENT SODIUM (00932)			

[illegible]

FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L (703U1)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	PHOS- PHORUS, ORTHO, TOTAL (MG/L AS P) (7U507)	SPE- CIFIC CON- DUC- TANCE LAB (US/CM 90095)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)
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[illegible]

GROUND WATER LEVELS TO MONITOR

POTENTIAL DRAWDOWN DUE TO

COAL SEAM DEWATERING

Responsible Agency: Montana Bureau of Mines and Geology

No. on Map

Sampling

2 to 22

Determine water levels
quarterly



GROUND WATER PIEZOMETERS TO MONITOR POTENTIAL

DRAWDOWN DUE TO COAL SLAM DEWATERING

Ground-water level measurements

Well no.	Depth to water (feet)
	April 9, 1985
2	218.29
3	82.00
4	60.73
5	20.85
6	21.34
7	79.01
8	13.69
9	14.19
10	5.74
11	-1.02
12	dry
13	135.04
14	212.56
15	224.51
16	41.72
17	248.43
18	247.96
19	126.49
20	dry
21	240.67
22	18.14

(-) Indicates water level above land surface

